

BOOK OF ABSTRACTS POSTERS



Island BIOLOGY

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Exploration of natural colorants from Malagasy biodiversity, sources of natural products for the industries

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Synthetic dyes have reached a limit of use with respect to environmental and toxicological problems. The use of dyes extracted from plants as natural colorants for food and non-food applications is considered a promising issue to overcome the ever-rising demand of the consumers to replace their synthetic counterparts. The richness of plant species, the high endemism ratio and the threats related to human activities on this biodiversity classify Madagascar as one of the most important hotspots of the world biodiversity. Dye plants from Madagascar are readily available raw materials that can be cultivated to produce dyestuffs for the production of natural colorants. Because of their chemical and color versatility in their dye profile and a long-term history of well-known uses, these plant species are good targets for the production of a variety of other natural substances. More than 237 dying plants (21% of endemics species, 54% of native species and 25% of introduced plants to Madagascar) have been inventoried in this study, as a result of historical data, ethnobotanical surveys and trials made with some dyes from Madagascar. Despite this richness, the lack of sufficient data about the composition of the dyes and pigments contained in these Malagasy plants and their toxicological impacts limits the development of this sector, both in textile (due to the variability of the shades) as well as in food and non-food applications. With this aspect, colorants which are traditionally extracted from Malagasy dye plants are considered as a new pool of biodiversity to be further explored. Among several applications, ancestral knowledge of natural fibers dyeing and small-scale dye extraction made by craftsmen from Madagascar are recognized worldwide. Nevertheless, this natural plant diversity is not a sufficient value and these important alternative resources in raw materials are starting to disappear. Many other industries and fields may be interested by new natural products with interesting potential applications, such as food coloring and cosmetics. Therefore, the sustainable exploitation of this biodiversity is expected to contribute to its conservation.

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